



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

LIFE MEMBERS.

| | |
|---|---|
| ALDIS, Prof. W. STEDMAN, F.R.A.S.... | { Old Headington, Oxford, Eng- land. |
| AUBERTIN, Mr. J. J., F.R.A.S..... | { 33 Duke St., St. James, S. W., London, Eng. |
| BERMINGHAM, Mr. JOHN | { 416 Jackson St., San Francisco, Cal. |
| BOULTON, JR., Mr. HENRY LORD..... F.R.A.S. | { Carácas, Venezuela, or Box 2015, New York, N. Y. |
| CALLANDREAU, Dr. J. | { Oradour sur Vayres, Haute Vienne, France. |
| CARNEGIE, Mr. ANDREW | { 5 West 51st St., New York, N. Y. |
| CEBRIAN, Mr. J. C..... | { 1801 Octavia St., San Francisco, Cal. |
| CLARK, Mr. MATEO | { 9 New Broad St., E. C., Lon- don, England. |
| COLTON, Mr. A. L..... | Box 1148, Madison, Wisconsin. |
| CROCKER, Mr. GEORGE† | { Mills Building, New York, N. Y. |
| CROCKER, Mr. WILLIAM H. | { Crocker National Bank, San Francisco, Cal. |
| DAVIDSON, Mr. J. EWEN | { 98 Banbury Road, Oxford, Eng- land. |
| DRAPER, Mrs. ANNA PALMER | { 271 Madison Ave., New York, N. Y. |
| FORBES, Mr. ANDREW B. | { Formerly 401 California St., San Francisco, Cal. |
| FOSTER, Mr. ARTHUR W. | { Flood Building, San Francisco, Cal. |
| FRICK, Mr. H. C..... | 42 Fifth Ave., Pittsburg, Pa. |
| FRY, Mr. ROBERT D. | { 628 Montgomery St., San Fran- cisco, Cal. |
| GRANT, Mr. JOSEPH D. | Burlingame, Cal. |
| GREIG, Mr. ANDREW | { 3 Duntrune Terrace, Broughty Ferry, Dundee, Scotland. |
| HALE, Prof. GEORGE E. Foreign Assoc. R.A.S. | { Director of Solar Observatory, Solar Observatory Office, Pas- adena, Cal. |
| HILL, Mr. HORACE L. | { Care of Laidlaw & Co., New York City. |
| HOFFMAN, Mr. SAMUEL V., F.R.A.S.. | { 91 Madison Ave., Morristown, N. J. |
| HOLDEN, Dr. EWARD S. Foreign Assoc. R.A.S. | { U. S. Military Academy, West Point, N. Y. |
| HOWARD, Hon. C. WEBB†..... | { Pacific-Union Club, San Fran- cisco, Cal. |
| HOWAT, Mr. WM. | { 458 William St., Melbourne, Victoria. |
| KEENEY, Mr. CHARLES C. | { 2220 Clay St., San Francisco, Cal. |

| | |
|-------------------------------------|---|
| KENNELLY, Prof. A. E., F.R.A.S..... | { Division of Engineering, Harvard University, Cambridge, Mass. |
| KÖHL, Mr. TORVALD | Odder, Denmark. |
| DE LANDERO, Mr. C. F. | { P. O. Box 1, Pachuca, State Hidalgo, Mexico. |
| LEWIS, Mr. CLARENCE MACKENZIE... | { Care Wm. Salomon & Co., 25 Broad St., New York, N. Y. |
| LOOMIS, Mr. HENRY B. | Seattle, Wash. |
| MAW, Mr. W. H., F.R.A.S..... | { 18 Addison Road, Kensington, London, England. |
| MILLS, Hon. D. O.†..... | 15 Broad St., New York, N. Y. |
| MOLERA, Mr. E. J., C.E..... | { 2025 Sacramento St., San Francisco, Cal. |
| MURPHY, Hon. B. D. | { Formerly 530 California St., San Francisco, Cal. |
| NEWHALL, Mr. H. F., F.R.A.S..... | { Observatory of the University, Cambridge, England. |
| PATTEN, Mr. JOHN | 325 E. 97th St., New York, N. Y. |
| PERKINS, Hon. GEO. C. | Oakland, Cal. |
| PERRINE, Prof. C. D. | { Director Cordoba Observatory, Cordoba, Argentine Republic. |
| PHIPPS, JR., Mr. HENRY | { Carnegie, Phipps & Co., Pittsburgh, Pa. |
| PIKE, Mr. RUTHVEN W. | 5037 Madison Ave., Chicago, Ill. |
| PORTER, Miss JULIET | 37 Deane St., Worcester, Mass. |
| RODGERS, Mrs. ARTHUR | { Formerly Leavenworth and Vallejo Sts., San Francisco, Cal. |
| ROTHSCHILD, Baron ALBERT VON | Vienna, Austria. |
| DE SABLE, JR., Mr. E. J. | { 1916 Octavia St., San Francisco, Cal. |
| SCHAEBERLE, Prof. J. M..... | { 502 Second St., Ann Arbor, Mich. |
| SCHIFF, Mr. JACOB H. | 932 Fifth Ave., New York, N. Y. |
| SEE, Dr. T. J. J., F.R.A.S..... | { Naval Observatory, Mare Island, Cal. |
| SMITH, Mr. CHARLES S. | { 25 W. 47th St., New York, N. Y. |
| SMITH, Mr. E. C..... | Saint Albans, Vermont. |
| SPRECKELS, Mr. A. B. | 58 Clay St., San Francisco, Cal. |
| SPRECKELS, Mr. C. A..... | 138 Front St., New York, N. Y. |
| SPRECKELS, Mrs. C. A..... | San Mateo, Cal. |
| STANFORD, Mr. THOS. W. | { 142 Russell St., Melbourne, Victoria. |
| STONE, Mr. JULIUS | { Care of the Ohio Central Fuel Co., Columbus, Ohio. |
| STRÓYBERG, Mr. V. | { Solvgrade, 90-4-, Copenhagen-k, Denmark. |
| TURNER, Mr. HENRY J. | { Woodville, Rappahannock Co., Virginia. |
| TYSON, Mr. R. J..... | { Seaboard Bank, 24 Market St., San Francisco, Cal. |

Publications of the

| | |
|------------------------------|---|
| WHITE, Dr. ANDREW D. | Ithaca, N. Y. |
| WILLMARTH, Mrs. MARY H. | 222 Michigan Ave., Chicago, Ill. |
| WITKOVSKY, Gen. B. | { Lesnoi, Gr. Obiesdnaja 16, St. Petersburg, Russia. |
| ZEILE, Mr. FREDERICK W. | { 1818 California St., San Fran- cisco, Cal. |

ACTIVE MEMBERS.

| | |
|---|---|
| AITKEN, Prof. R. G. | { Lick Observatory, Mount Ham- ilton, Cal. |
| ALBRECHT, Dr. SEBASTIAN | { Lick Observatory, Mount Ham- ilton, Cal. |
| ALEXANDER, Prof. W. D. | { Box 732, Honolulu, Hawaiian Islands. |
| ALLYNE, Miss EDITH W. | { 2609 Gough St., San Francisco, Cal. |
| ALTSCHUL, Mr. CHARLES | { Lazard Frères & Co., 10 Wall St., New York, N. Y. |
| BABCOCK, Mr. ALLEN H. | 146 Lake St., Oakland, Cal. |
| BACON, Mr. E. H. | { 1103 Merchants Exch. Bldg., San Francisco, Cal. |
| BAIRD, Mr. B. A. | 1183 Ellis St., San Francisco, Cal. |
| BROWN, ELAM C. | Martinez, Cal. |
| BROWN, Miss FLORENCE | 204 W. Com'l Row, Reno, Nev. |
| BENEDICT, Mr. PAUL M. | Box 637, New Haven, Conn. |
| BENKMAN, Mr. EDWIN G. | { 2267 Turk St., San Francisco, Cal. |
| BISHOP, Mr. CHARLES R. | { University Bank Bldg., Berke- ley, Cal. |
| BLANEY, Mrs. CHARLES D. | Saratoga, Cal. |
| BLESSING, Mr. J. W. | Risingsun, Ohio. |
| BRACKETT, Prof. F. P. | { Pomona College, Claremont, Cal. |
| BRASHEAR, Mr. J. A., F.R.A.S. | Allegheny City, Pa. |
| BRENNAN, Rev. M. S. | { St. Lawrence's Church, St. Louis, Mo. |
| BREWER, Mr. EDWARD M. | 27 Kilby St., Boston, Mass. |
| BURCKHALTER, Mr. CHARLES, F.R.A.S. | { Chabot Observatory, Oakland, Cal. |
| CAMPBELL, Prof. W. W. Foreign Assoc. R.A.S. | { Director of Lick Observatory, Mount Hamilton, Cal. |
| CHAMPREUX, Mr. A. J. | { Students' Observatory, Berkeley, Cal. |
| CHESEBROUGH, Mr. H. C. | { 234 California St., San Fran- cisco, Cal. |
| CHIEF ASTRONOMER | { Department of Interior, Ottawa, Canada. |
| COMFORT, Major S. | { Care Bedford Petroleum Cie., 67 Boulevard Haussmann, Paris, France. |

| | |
|---|---|
| CORNISH, Mr. FRANK V. | { Monadnock Building, San Francisco, Cal. |
| COSTA, Mr. J. | { 104 Montgomery St., San Francisco, Cal. |
| CRAWFORD, Prof. RUSSELL TRACY | { Students' Observatory, Berkeley Cal. |
| CROCKER, Mr. HENRY J. | { 2301 Laguna St., San Francisco, Cal. |
| CUNNANE, Mrs. W. B. | { 1327 De la Vina St., Santa Barbara, Cal. |
| CUNNINGHAM, Miss S. J. | { 3308 Arch St., Philadelphia, Pa. |
| CURTIS, Prof. HEBER D. | { Lick Observatory, Mount Hamilton, Cal. |
| CUSHING, Mr. CHAS. S. | { 821 First National Bank, San Francisco, Cal. |
| CONROY, Mr. CHARLES C. | { 540 E. Fifteenth St., Los Angeles, Cal. |
| DONOHUE, Mr. J. A. | { V. P. Donohoe-Kelly Banking Co., San Francisco, Cal. |
| DUCKWORTH, Rev. W. ARTHUR, J.P. | { Orchardleigh, Frome, Somerset, England. |
| DYER, Mr. ERNEST I. | { 231 Mills Bldg., Care Union Oil Co., San Francisco, Cal. |
| DOLMAGE, Mr. CECIL G., LL.D., D.C.L., F.R.A.S. | { 33 Warwick Road, Earl's Court, London, S. W., England. |
| DEVEREUX, Mrs. JOHN H. | 3226 Euclid Ave., Cleveland, O. |
| EASTMAN, Miss S. J. | Ogontz School, Pa. |
| EDWARDS, Prof. GEORGE C. | 2546 Dana St., Berkeley, Cal. |
| EINARSSON, Mr. STURLA | { Students' Observatory, Berkeley, Cal. |
| ELLERMAN, Mr. FERDINAND | { Solar Observatory, Mount Wilson, via Pasadena, Cal. |
| EVERSHED, Mrs. JOHN | { The Observatory, Kodaikanal, South India. |
| FATH, Dr. E. A. | { Solar Observatory, Pasadena, Cal. |
| FORBES, Mr. GEORGE STUART, F.R.A.S. | { His Majesty's Indian Civil Service, Madras Club, Madras, India. |
| GALLOWAY, Mr. J. D. | 1500 Euclid Ave., Berkeley, Cal. |
| GARVEY, Miss ELIZABETH E. | { Hearst Hall, University of California, Berkeley, Cal. |
| GELDERN, Mr. OTTO VON | { 865 Pacific Building, San Francisco, Cal. |
| GILL, Sir DAVID, K.C.B., F.R.A.S. | { Athenæum Club, Pall Mall, London, England. |
| GLANCY, Miss ESTELLE | { Students' Observatory, Berkeley, Cal. |
| GOULD, Mr. ELWYN B. | 808 Juniper St., San Diego, Cal. |
| GOULD, Prof. JAMES E. | { University Station, Seattle, Wash. |

| | |
|--|--|
| GRIMWOOD, Mr. C. P..... | { 722 Monadnock Building, San Francisco, Cal. |
| GUNN, Mr. J. O'B. | { Mechanics' Savings Bank, 143 Montgomery St., San Francisco, Cal. |
| GREAVES, Mr. THOMAS T. | { 746 Phelan Bldg., San Francisco, Cal. |
| HODGHEAD, Mr. BEVERLY L. | { 821 First National Bank, San Francisco, Cal. |
| HART, Judge CHARLES F. | { Kapiolani Park, Honolulu, T. H. |
| HODGIN, Mr. JOHN S. | { La Grange, Ore. |
| HARMS, Mr. C. F..... | { 140 Broad St., New York, N. Y. |
| HEARST, Mrs. PHEBE A. | { 1414 Post St., San Francisco, Cal. |
| HENKEL, Mr. ANDREW P. | { Erie and Mooney Aves., Cincinnati, Ohio. |
| HENNESY, Mr. JAMES | { 2718 Twelfth St., N. E., Washington, D. C. |
| HEREDIA, Rev. G., S.J., F.R.A.S..... | { Colegio del Velódromo, Puebla, Mexico. |
| HOOKE, Mr. JOHN D. | { 325 West Adams St., Los Angeles, Cal. |
| HOWE, Prof. CHAS. S., F.R.A.S..... | { Case Observatory, Cleveland, O. |
| HUSSEY, Prof. W. J..... Foreign Assoc. R.A.S. | { Director Detroit Observatory, Ann Arbor, Mich. |
| IRVING, Mr. EDWARD | { 1530 Shattuck Ave., Berkeley, Cal. |
| JAYNES, Mr. FRANK | { W. U. Telegraph Co., San Francisco, Cal. |
| JONCKHEERE, Mr. ROBERT | { Observatoire Stelle, Roubaix (Nord), France. |
| KELLY, Mr. JAMES R. | { Hibernia Savings and Loan Society, San Francisco, Cal. |
| KOEPPEN, Mr. FR. | { Schöne Aussicht 20, Wiesbaden, Germany. |
| LANGSTROTH, Mr. JOHN A. | { Perry St. and Grand Ave., Oakland, Cal. |
| LARKIN, Prof. EDGAR L. | { Director Mount Lowe Observatory, Echo Mountain, Cal. |
| LEAL, Hon. MANUEL FERNANDEZ... | { Casa de Moneda, City of Mexico, Mexico. |
| LEUSCHNER, Prof. A. O., F.R.A.S..... | { Director Students' Observatory, Berkeley, Cal. |
| LIETZ, Mr. ADOLPH | { 632 Commercial St., San Francisco, Cal. |
| LOWDEN, Mr. W. H..... | { 314 California St., San Francisco, Cal. |
| LUKENS, Mr. EDWARD G. | { 1362 Jackson St., Oakland, Cal. |
| MADDRILL, Dr. JAMES D., F.R.A.S..... | { International Latitude Observatory, Ukiah, Cal. |
| MANSON, Mr. MARSDEN, C.E., PH.D.... | { Room 801, 4 Montgomery St., San Francisco, Cal. |

| | |
|--|---|
| MARTENS, Mr. F. | { Collegepoint, Queens Co., New York. |
| MEYER, Mr. W. F. | { Students' Observatory, Berkeley, Cal. |
| MILLER, Prof. E. | { University of Kansas, Lawrence, Kansas. |
| MOFFITT, Mr. JAMES K. | { First National Bank, San Francisco, Cal. |
| MONCK, Mr. W. H. S., F.R.A.S. | { 16 Earlsfort Terrace, Dublin, Ireland. |
| MOORE, Dr. J. H. | Casilla 1219, Santiago, Chile. |
| MORSE, Mr. FREMONT, U.S.C. & G.SUR. | { 1691 Bush St., San Francisco, Cal. |
| MURDOCK, Mr. C. A. | { 2812 Sacramento St., San Francisco, Cal. |
| MARKWART, Mr. A. H. | 377 Palm Ave., Oakland, Cal. |
| MCADIE, Prof. A. G. | { U. S. Weather Bureau, San Francisco, Cal. |
| MCENERNEY, Mr. GARRET W. | { 1277 Flood Bldg., San Francisco, Cal. |
| McKINNEY, Prof. T. E. | { Wesleyan University, Middletown, Conn. |
| MCNEILL, Prof. MALCOLM | Lake Forest, Ill. |
| NEWKIRK, Dr. B. L. | { University of Minnesota, Minneapolis, Minn. |
| NOORDHOFF, Mr. P. | Groeningen, Holland. |
| O'HALLORAN, Miss ROSE | { 726 Ashbury St., San Francisco, Cal. |
| OWEN, Mr. W. S. | { U. S. Examiner of Surveys, Imperial, Cal. |
| PADDOCK, Mr. GEORGE FREDERICK | Casilla 1219, Santiago, Chile. |
| PARDEE, Hon. GEORGE C. | Oakland, Cal. |
| PHELAN, Hon. JAMES D. | { Mutual Savings Bank Bldg., San Francisco, Cal. |
| PIERSON, Mr. LAWRENCE H. | { Pacific Pine Co., San Francisco, Cal. |
| PORTER, Dr. THOS. | { Petersham, New South Wales, Australia. |
| POST, Mr. CHARLES A., F.R.A.S. | Bayport, Long Island, N. Y. |
| POST, Mr. WALTER A., F.R.A.S. | Newport News, Virginia. |
| PARRAMORE, Dr. E. L. | { Boye's Hot Springs, Box 110, Sonoma County, Cal. |
| RICARD, Rev. J. L., S.J. | Santa Clara, Cal. |
| RICHARDSON, Mr. DANIEL S. | { 157 Hagar Ave., Piedmont Station, Oakland, Cal. |
| ROBERTS, Mrs. ISAAC, D. SC. | { Chateau Rosa Bonheur. By Thomery, Seine et Marne, France. |
| RUSSELL, Mr. W. P. | Pomona College, Claremont, Cal. |
| RODGERS, Mr. E. D. | Boulder Creek, Cal. |
| SCHILD, Mrs. E. T. | { 1008 Broadway, San Francisco, Cal. |

| | |
|------------------------------------|---|
| SCHUSSLER, Mr. HERMAN | { Pacific-Union Club, San Francisco, Cal. |
| SEARES, Prof. FREDERICK H. | { Solar Observatory, Pasadena, Cal. |
| SEARLE, Rev. GEORGE M., C.S.P..... | { St. Paul's Church, 415 W. 59th St., New York, N. Y. |
| SANDERS, Mr. MORGAN | { 1419 West Lanvale St., Baltimore, Md. |
| SMYTH, Mr. WM. H. | Fernwald, Berkeley, Cal. |
| SNYDER, Prof. M. B., F.R.A.S..... | { Director of Philadelphia Observatory, Philadelphia, Pa. |
| SPENCER, Mr. GEORGE W. | { Care of Ætna Insurance Co., 5 California St., San Francisco, Cal. |
| SPRECKELS, Mr. RUDOLPH | { 1400 Pacific Ave., San Francisco, Cal. |
| STANFORD, Miss GERTRUDE..... | { Warm Springs, Alameda County, Cal. |
| SUTER, Mr. DANIEL | { 317 Bush St., San Francisco, Cal. |
| TALBOT, Mr. C. F. A..... | Redwood City, Cal. |
| TETÈNS, Dr. OTTO | { Royal Observatory, Kiel, Germany. |
| TOWNLEY, Prof. S. D..... | Stanford University, Cal. |
| TUCKER, Prof. R. H..... | { The Observatory, San Luis, Argentine Republic. |
| TURNER, Dr. ARTHUR B. | Montclair, N. J. |
| VALLE, Mr. FELIPE | { Director National Observatory Tacubaya, Mexico. |
| VAN INGEN, Mr. EDWARD H. | 9 East 71st, St. New York, N. Y. |
| VILLIGER, Dr. W..... | { Care of Carl Zeiss; z. Hd. Dr. M. von Rohr, Jena, Germany. |
| WARNER, Mr. W. R., F.R.A.S..... | { Care of Warner & Swasey, East Prospect St., Cleveland, Ohio. |
| WEINEK, Prof. Dr. L..... | { Imperial Observatory, Prague, Austro-Hungary. |
| WHITE, Mrs. ELSIE HADLEY | { 209 West Park Ave., Valley City, North Dakota. |
| WILLIAMS, Mr. H. C..... | { 1476 Washington St., San Francisco, Cal. |
| ZIEL, Mr. F. R..... | { 923 Merchants Exch. Bldg., San Francisco, Cal. |

INSTITUTIONAL MEMBERS.

| | |
|----------------------------------|---|
| FIELD MEMORIAL OBSERVATORY | { Williams College, Williamstown, Mass. |
| IMPERIAL OBSERVATORY | { University of St. Petersburg, Russia. |
| CALIFORNIA STATE LIBRARY | Sacramento, Cal. |
| DANIEL SCHOLL OBSERVATORY | { Franklin and Marshall College, Lancaster, Pa. |

| | |
|--|--|
| DIRECTOR OF THE TRANSVAAL OBSERV- ATORY | } Johannesburg, Transvaal. |
| LIBRARY OF THE CHABOT OBSERVATORY | Oakland, Cal. |
| THE JOHN CRERAR LIBRARY | Chicago, Ill. |
| LIBRARY OF THE LELAND STANFORD JR. UNIVERSITY | } Stanford University, Cal. |
| LIBRARY OF THE LICK OBSERVATORY.. | Mount Hamilton, Cal. |
| LIBRARY OF THE MECHANICS' INSTITUTE | { 99 Grove St., San Francisco, Cal. |
| LIBRARY OF THE MINNEAPOLIS ATHE- NÆUM | } Minneapolis, Minn. |
| NEW YORK PUBLIC LIBRARY | { 40 Lafayette Place, New York, N. Y. |
| OAKLAND FREE PUBLIC LIBRARY..... | Oakland, Cal. |
| LIBRARY OF PRINCETON UNIVERSITY.. | Princeton, N. J. |
| THE PUBLIC LIBRARY | Boston, Mass. |
| SEATTLE PUBLIC LIBRARY | Seattle, Wash. |
| LIBRARY OF ST. IGNATIUS COLLEGE.... | { 2211 Hayes St., San Francisco, Cal. |
| LIBRARY OF THE U. S. MILITARY ACADEMY | } West Point, N. Y. |
| LIBRARY OF THE UNIVERSITY OF CALI- FORNIA | } Berkeley, Cal. |
| LIBRARY OF THE UNIVERSITY OF ILLI- NOIS | } University Station, Urbana, Ill. |
| LIBRARY OF THE UNIVERSITY OF IN- DIANA | } Bloomington, Indiana. |
| LIBRARY OF THE UNIVERSITY OF PENN- SYLVANIA | } Philadelphia, Pa. |
| LIBRARY OF THE UNIVERSITY OF SOFIA. | Sofia, Bulgaria, Europe. |
| LIBRARY OF YALE UNIVERSITY | New Haven, Conn. |
| LOWELL OBSERVATORY | Flagstaff, Ariz. |
| SHATTUCK OBSERVATORY | { Dartmouth College, Hanover, N. H. |
| LIBRARY OF THE UNIVERSITY OF KAN- SAS | } Lawrence, Kas. |
| SMITH COLLEGE LIBRARY | Northampton, Mass. |
| WASHINGTON UNIVERSITY LIBRARY .. | St. Louis, Mo. |

CORRESPONDING INSTITUTIONS.

Albany, New York, Dudley Observatory.
 Allegheny, Pennsylvania, Allegheny Observatory.
 New York, New York, American Mathematical Society.
 Armagh, Ireland, Armagh Observatory.
 Bamberg, Germany, Remeis-Sternwarte.
 Berlin, Germany, Königl, Astronomisches Recheninstitut.
 Berlin, Germany, Königliche Sternwarte.
 Brussels, Belgium, Bibliothèque de la Société Belge d'Astronomie.
 27 Montagne de la Cour.
 Brussels, Belgium, Observatoire Royal de Belgique.

Cambridge, England, University Observatory.
 Cambridge, Massachusetts, Harvard College Observatory.
 Cape Town, Africa, Royal Observatory.
 Catania, Italy, Società degli Spettroscopisti Italiani.
 Christiania, Norway, Universitäts-Sternwarte.
 Cincinnati, Ohio, Cincinnati Observatory, Station O.
 Columbia, Missouri, Laws Observatory, University of Missouri.
 Cordoba, Argentine Republic, National Observatory.
 Dorpat, Russia, University Observatory.
 Dublin, Ireland, Dunsink Observatory.
 Dublin, Ireland, Royal Dublin Society.
 Edinburgh, Scotland, Royal Observatory.
 Geneva, Switzerland, Observatoire.
 Glasgow, Scotland, University Observatory.
 Gotha, Germany, Grossherzogliche Sternwarte.
 Goettingen, Germany, Königliche Sternwarte.
 Greenwich, England, Royal Observatory.
 Hamburg, Germany, Hamburger Sternwarte.
 Heidelberg, Germany, Astrometrische Abteilung der Grossherzoglichen Sternwarte.
 Heidelberg, Germany, Astrophysikalische Abteilung der Grossherzoglichen Sternwarte.
 Helsingfors, Russia, University Observatory.
 Hiram, Ohio, Observatory of Hiram College.
 Kasan, Russia, University Astronomical Observatory.
 Kiel, Germany, Universitäts-Sternwarte.
 Kodaikanal, Palani Hills, South India, Observatory.
 Koenigsberg, in Pr. Germany, Königliche Sternwarte.
 La Plata, Argentine Republic, Observatory.
 Leipsic, Germany, Universitäts-Sternwarte.
 Leyden, Holland, Universitäts-Sternwarte.
 Lisbon (Tapada), Portugal, Real Observatorio.
 London, England, British Astronomical Association, care of F. W. Levander, 30 North Villas, Camden Square, N. W.
 London, England, British Museum.
 London, England, Royal Astronomical Society.
 London, England, 3 Verulam Bldgs., Gray's Inn, The Nautical Almanac.
 Lund; Sweden, University Observatory.
 Madison, Wisconsin, Washburn Observatory.
 Madrid, Spain, Observatorio Astronómico.
 Marseilles, France, Observatoire.
 Melbourne, Victoria, Observatory.
 Mexico, Mexico, Sociedad Científica "Antonio Alzate."
 Milan, Italy, Osservatorio Astronomico di Brera.
 Moscow, Russia, University Observatory.
 Mount Wilson, via Pasadena, Cal., Solar Observatory.
 Munich, Germany, Königliche Sternwarte.
 Naples, Italy, Osservatorio Astronomico.

New Haven, Connecticut, Yale University Observatory.
New York, New York, Columbia University Observatory.
Nice, France, Observatoire.
Northfield, Minnesota, Goodsell Observatory.
Oxford, England, Radcliffe Observatory.
Oxford, England, University Observatory.
Padua, Italy, Osservatorio Astronomico.
Paris, France, Bureau des Longitudes.
Paris, France, Observatoire National.
Paris, France, Rue Cassini 16, Société Astronomique de France.
Philadelphia, Pa., 105 South Fifth St., American Philosophical Society.
Potsdam, Germany, Astrophysikalisches Observatorium.
Prague, Austro-Hungary, Universitäts-Sternwarte.
Pulkowa, Russia, Imperial Observatory.
Rio de Janeiro, Brazil, Observatory.
Rome, Italy, Osservatorio Astronomico del Collegio Romano.
Rome, Italy, Specula Vaticana.
San Francisco, California, Academy of Sciences.
San Francisco, California, Technical Society of the Pacific Coast.
Stockholm, Sweden, University Observatory.
Strassburg, Germany, Universitäts-Sternwarte.
Sydney, New South Wales, Observatory.
Tacubaya, Mexico, Observatorio Astronomico Nacional.
Tokio, Japan, University Observatory.
Toronto, Canada, Astronomical and Physical Society of Toronto.
Toulouse, France, Observatoire.
Turin, Italy, Osservatorio Astronomico.
University Park, Colorado, Chamberlin Observatory.
University of Virginia, Virginia, McCormick Observatory.
Upper Darby, Pennsylvania, Flower Observatory, University of Pennsylvania.
Upsala, Sweden, University Observatory.
Vienna, Austria, K. K. Sternwarte.
Vienna (Ottakring), Austria, Von Kuffnersche Sternwarte.
Washington, District of Columbia, Library of Congress, Periodical Division.
Washington, District of Columbia, National Academy of Sciences.
Washington, District of Columbia, Naval Observatory.
Washington, District of Columbia, Smithsonian Institution.
Washington, District of Columbia, The American Ephemeris.
Washington, District of Columbia, U. S. Coast and Geodetic Survey.
Williams Bay, Wisconsin, Yerkes Observatory.
Zurich, Switzerland, Observatory.

EXCHANGES.

Mr. F. ARCHENHOLD, Director of Treptow Sternwarte, Berlin, Germany.
Astrophysical Journal, Williams Bay, Wisconsin.
Observatorio Astronomico de Cartuja, Granada, Spain.

Popular Astronomy, Northfield, Minn.

Prof. Dr. H. J. Klein, Editor of *Sirius*, Theresien St. 85, Köln-Lindenthal, Germany.

Gazette Astronomique, Société d'Astronomie d'Auvers, Rue Pycke 55, Antwerp, Belgium.

The Observatory, Greenwich, England.

The Journal of the Royal Astronomical Society of Canada, Toronto, Canada.

Revista di Astronomia, Società Astronomica Italiana, Turin, Italy.

Società Astronomica, Italiana, Turin, Italy.

Royal Astronomical Society of Canada, 198 College Street, Toronto, Canada.

FOR REVIEW.

[See *Publications A. S. P.*, Vol. VIII, p. 101.]

The Call, San Francisco, California.

The Chronicle, San Francisco, California.

The Examiner, San Francisco, California.

The Mercury, San Jose, California.

The Record-Union, Sacramento, California.

The Times, Los Angeles, California.

The Tribune, Oakland, California.